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EA03-13
Fish Creek
Aquatic Project

Unites States Department of the Interior
Bureau of Land Management
Eugene District
Fish Creek Aquatic Habitat Restoration Plan
Culvert Replacements

Environmental Assessment No. OR090-EA-03-13

I. INTRODUCTION

A. PURPOSE AND NEED

Fish Creek in the Lake Creek basin is one of the most productive streams for salmon and steelhead on the Pacific Coast. Numbers of spawning fish have exceeded the productive capacity of the stream. In order to increase productivity, an Aquatic Habitat Restoration Plan was initiated in 1984. The Plan was later incorporated into the Lake Creek Aquatic Habitat Management Plan and Environmental Assessment (LCAHMP) OR090-EA-00-20. Many of the aquatic and riparian restoration opportunities identified in these plans have been implemented. Two worn, barrier culverts, identified in the 2000 LCAHMP, continue to impede the natural migrations of aquatic species that inhabit these locations, while a third culvert does not meet current BLM standards for passing flow during a hundred year flow event. The purpose of this restoration plan as related to the Aquatic Conservation Strategy objectives (ASC) is to restore the connectivity between stream systems within the Fish Creek watershed and thus provide unobstructed routes to areas critical for fulfilling life history requirements of aquatic dependant species here.

B. CONFORMANCE

The proposed action and alternatives are in conformance with the *Record of Decision for Amendments to Forest Service and Bureau of Land Management Planning Documents within the Range of the Northern Spotted Owl, April 1994 (ROD)*, and the *Eugene District Record of Decision and Resource Management Plan, June 1995 (Eugene District ROD/RMP)* as amended by the *Record of Decision for Amendments to the Survey and Manage, Protection Buffer, and other Mitigation Measures Standards and Guidelines, USDA Forest Service and USDI Bureau of Land Management January 2001.* The analysis contained in these Environmental Impact Statements (EIS) are incorporated into this document by reference.

The Proposed Action was consulted on with the U.S. Fish and Wildlife Service during the FY 2002-03 programmatic consultation cycle. A Biological Opinion was issued April 4, 2002.

The Proposed Action is in conformance with the Aquatic Conservation Strategy in the Northwest Forest Plan. Information summarized in the Fish Creek Aquatic and Riparian Habitat Restoration Plan is from the Eugene District Lake Creek Watershed Analysis (June 1995). Information and analysis are also tiered to the Eugene District Lake Creek Aquatic Habitat Management Plan and Environmental Assessment (LCAHMP) OR090-EA-00-20.

The Proposed Action will follow general conditions related to fill removal activities as listed in permit (FP-23692) re-issued by the Oregon Department of State Lands (June 18, 2002, May 2003).

II. ISSUES

A. ISSUES SELECTED FOR ANALYSIS

Issue 1: Would the proposed stream enhancement affect the attainment of the Aquatic Conservation Strategy (ACS) objectives?

Issue 2: What are the effects on Special Status Species as a result of the proposed action?

Issue 3: How would the removal and replacement of the two culverts in road 16-7-30 (T16S R7W Section 22) and one culvert in road 16-7-30 (T16S R7W Section 27) effect neighboring private land owners, logging operations and normal vehicular traffic flow?

III. PROPOSED ACTION AND ALTERNATIVES

A. PROPOSED ACTION

The Proposed Action includes five general categories of work. One or more activities may be performed at each of the project locations over a period of six years.

1. Culvert Rehabilitation

Culverts may create barriers to the movements of anadromous fish and other aquatic species, and contribute to modifications in natural hydrologic processes that may create flood and erosion hazards. Four types of rehabilitation are proposed in the Fish Creek Basin:

a. Replacement: The existing culvert is removed by digging out and lifting from its location in the streambed. The culvert is replaced with another culvert, a structural arch, bridge or other fish passage structure. The type of replacement and size would depend upon the existing substrates, flows at the site and the need to provide for movement of anadromous fish and aquatic organisms up and downstream. Additional excavation may be needed to accommodate a larger structure or a structure of a different type. Excavated areas would be stabilized and protection provided to reduce the potential for erosion.

b. Improved Access: For culverts creating a barrier to movements of anadromous fish and other aquatic organisms, and where removal or replacements are not feasible, access to the culvert may be created or improved by placement of structural material in the channel. This

structural material primarily would be logs and boulders placed to elevate the stream channel and create pools to facilitate movement into the culvert. Short-term disturbance of the stream channel and stream bank may occur as a result of accessing the channel with equipment and materials, and from working within the stream channel.

c. Improved culvert passage: When culverts are too steep to permit passage and either replacement or removals are not feasible, passage through the culvert may be facilitated by placement of baffles, weirs, or similar type structures in the culvert. This breaks up velocity barriers and provides resting places for fish and other aquatic organisms.

From July 1 through September 15, 2004 a culvert removal/replacement project is proposed to occur in the Fish Creek drainage, on an unnamed tributary that flows from the Northwest along road 16-7-27.1 and under the paved road 16-7-30. The project site is denoted on map 1 provided in the appendix. The map is titled "Fish Creek Culvert Project 1" and is listed as T16S, R7W, Section 27. This culvert is an all flow migration barrier to salmonids and all other aquatic organisms (see photo 1). The road is paved at this site, with approximately 7 feet of fill over the existing pipe. This barrier pipe has a nearly 7 foot drop at the effluent into a 3 foot deep plunge pool and rests on a 3% grade. Fish presence (cutthroat trout, coho salmon, and cottid species) has been detected directly below this barrier culvert. Approximately 0.25 miles of suitable refugia is located above this pipe. In addition to culvert replacement to facilitate passage, instream structure consisting of logs and boulders may be installed below and above this passage during the culvert installation phase or in years following if future grade adjustments related to aquatic organism passage are found to be necessary.

During the same time period, a culvert removal/replacement project (culvert 2 - map 2) is proposed to occur in the North Tributary of Fish Creek near its confluence with mainstem Fish Creek. At this location, the North Tributary travels under graveled road 16-7-30 through a barrier pipe with a 3.5 foot drop at the effluent end (photo 2). This 50 foot long culvert lies under a graveled road and 5.5 feet of fill. Approximately 1 mile of suitable fish habitat is available above this pipe. Several hundred feet to the northeast, a third culvert removal/replacement project (culvert 3 - map 2) is located under the 16-7-30 road. The stream gradient here is too steep for fish to access habitat above or directly below. Culvert 3 is an old, rusted pipe that does not meet BLM 100 year flood flow requirements. It is proposed that this pipe be replaced with culverts 1 and 2 as a package job. Replacing culvert 3 as part of a contract package with culverts 1 and 2 would reduce replacement costs. No emphasis would be placed on passage of aquatic species due to the steep gradient of the stream channel at this location.

B. ALTERNATIVE 2 - Replacement of Aquatic species barrier pipes only

The Proposed Action includes replacement of an old drainage pipe (culvert 3) that has no impact on fish passage, but likely prevents movement of some macroinvertebrates and amphibians. This alternative proposes the replacement of culverts 1 and 2 only. Replacing pipe 3 with one that meets 100 year flow requirements may prevent the road from future failure.

C. ALTERNATIVE 3 - No Action

Under a No Action Alternative, no actions would be taken to replace culverts. Culvert and road work already occur as part of the district road maintenance program. However, the emphasis would be on road stability and not on assisting with recovery of the aquatic system and its associated fauna. Under the No Action alternative, culverts 1 and 2 would continue to be migration barriers to aquatic species. Due to its age, culvert 3 will soon likely fail and require replacement as part of the district road maintenance program.

IV. EXISTING CONDITIONS

A. GENERAL SETTING

Fish Creek arises on the western slopes of the Coast Range, flowing southwesterly and westerly to join Lake Creek below Lake Creek Falls in T16S, R7W, Section 30. It is a moderate gradient stream with variable valley floor confinement. Except for the lowest half mile, the mainstem of Fish Creek is managed by BLM. The rest of the basin, including tributaries, is a mixture of public and private ownership. The basin is essentially all managed for timber, most of it in second growth. Active harvest continues in the watershed.

Headwaters are steep, arising on the divide between the Siuslaw River and Willamette River basins. Tributaries are typically steep in the upper reaches, go through a short transitional zone, then flatten where they cross the Fish Creek floodplain. One large tributary enters from the north in Section 29. A road parallels most of the length of Fish Creek, with additional roads throughout the basin. The watershed has had a number of major landslide/channel failure events, the most recent in 1996.

Pool to riffle ratio is about 1:1, with some cascades and rapids. Substrates are a mixture of sizes, with over 10% exposed bedrock. Pools are generally of a larger size, but moderately deep. The type of pools present is more diverse than most other Lake Creek streams, including good off-channel and rearing habitat. This is partly due to natural conditions, partly due to extensive beaver activity, and partly due to habitat improvements placed in the stream.

The channel is generally stable with excellent shading. Some exposed banks are present, mostly in the lowest reaches on private lands where Fish Creek has downcut to compensate for elevation changes in Lake Creek. Some channel cutting occurred during the 1996 flood/landslide event, mostly a result of the dislodgement of natural wood that had stabilized the channel.

Fish Creek has runs of coho and chinook salmon, steelhead and searun cutthroat trout. For many years, beginning about 1960, the State planted coho and steelhead above Lake Creek Falls for rearing although returning adults were unable to pass over the falls and would seek alternative places to spawn. Because of its proximity to the base of Lake Creek Falls, Fish Creek received an unusual abundance of spawners. The chinook run has varied with stream flows; when low, fish spawned in Lake Creek, when flows were high, they moved up to three miles up Fish Creek. Steelhead show a similar pattern of response to flows, although not to the same degree as chinook, moving further upstream in years of higher flow. Steelhead and coho will pass

upstream to the forks at the Section 22/27 line where culverts present barriers to further upstream movement.

Fish numbers in Fish Creek exceeded most fish-bearing streams in the Siuslaw basin in numbers per mile. Numbers followed the coast-wide pattern, with low numbers in the 1983-84 period, some increase in the later years of the 80's, and a decline in the latter half of the 1990s. Some of these fish were produced in Fish Creek, others were probably from planting of juvenile fish above Lake Creek Falls to help develop the upper basin runs.

Although numbers of fish have fluctuated, Fish Creek continues to have one of the highest counts, both in total numbers and fish per mile, of any stream along the Oregon coast, particularly for coho salmon. Spawning habitat is abundant, but collections made by ODFW in 1994 (Beidler, pers. comm.) suggest that available rearing habitat is inadequate for the large number of fry produced. Poaching of fish, particularly chinook, continues to be a problem, both because of the accessibility, and the reputation for numbers of fish.

Habitat was shown to be spotty in the 1983 inventory. The best habitat was associated with beaver dams in the upper reaches of Fish Creek. Extensive reaches of bedrock reduced the potential for habitat. Stream structure was sparse; where present, larger wood and beavers provided most of the good habitat.

An extensive amount of riparian and stream restoration work has been completed in Fish Creek. From 1984 to 2000 various techniques have been implemented to increase stream habitat and provide a natural, long term source of recruitable conifer trees for Fish Creek. A historical accounting of individual restoration projects, by year, have been placed in the Fish Creek culvert replacements project file for reference.

B. SPECIFIC RESOURCE DESCRIPTIONS

Wildlife

The areas within and adjacent to the proposed project sites are composed of Douglas fir stands typical of Oregon's Coast Range. Adjacent uplands within 0.25 miles around culverts two and three contain some remnant mature Douglas firs that provide structure suitable for murrelet and spotted owl nesting. This habitat is lacking within 0.25 miles around site number one. No recent surveys have been conducted for these two species in the vicinity, consequently spotted owl and murrelet status is unknown.

None of the proposed sites are designated Critical Habitat (CH) for either the murrelet or spotted owl.

Botany

The area is mostly riparian alder forest, with fairly large alder and generally small Douglas-fir, big-leaf maple, western red-cedar, and western hemlock. Some special status plant species that could be expected in these conditions include *Cimicifuga elata* and *Poa laxiflora*, with the lichens *Cetrelia cetrarioides* and *Platismatia lacunosa* possible on larger alder and the aquatic

moss *Platyhypnidium ripariodes* was found on submerged stream cobbles. This moss is BLM Tracking status, and as such does not require protection. No special status or survey and manage plants were found during surveys on June 13, 2002.

The most prevalent shrubs include salmonberry, vine maple, thimbleberry, devil's club, and stink currant, species common in coast range riparian areas. Introduced species are abundant on the roadsides, particularly velvet-grass (*Holcus lanatus*) and secondarily, herb robert (*Geranium robertianum*) and bull thistle (*Cirsium vulgare*). Several mosses are abundant on the alders and on rocks in the streams. The more common plant species found are listed below.

Trees	**Shrubs**	**Herbs**	**Bryophytes**
Acer macrophyllum	*Acer circinatum*	*Actaea rubra*	*Frullania nisquallensis*
Alnus rubra	*Oplopanax horridum*	*Athyrium filix-femina*	*Hygrohypnum bestii*
Pseudotsuga menziesii	*Ribes bracteosum*	*Chrysosplenium glechomaefolium*	*Isothecium myosuroides*
Thuja plicata	*Rubus parviflorus*	*Circaea alpina*	*Neckera douglasii*
Tsuga heterophylla	*Rubus spectabilis*	*Claytonia sibirica*	*Porella cordaeana*
	Rubus ursinus	*Dicentra formosa*	*Ulota megalospora*
		Hydrophyllum tenuipes	
		Mitella caulescens	
		Mitella ovalis	
		Polystichum munitum	
		Tolmiea menziesii	

Recreation

Recreation for the project areas is dispersed use such as driving for pleasure, hunting, hiking, and photography. Section 27 (BLM ownership) is within the Lower Lake Creek SRMA boundary and is within VRM class III guidelines which is to retain the existing character of the landscape. No recreation facilities are planned for this section. Section 22 is privately owned and managed.

Geology/Soils

Fish Creek is geologically mapped within the Tyee Formation that consists of arkosic marine sandstones that may include minor interbeds of tuff (Walker and Macleod, 1991). Side slopes are typically short and steep with relatively uniform gradient from ridgetop to the valley bottom. Ridgetops are sharp and narrow. Dry ravelling is associated with these slopes and is primarily active on the convex portions of the hillslopes. Debris avalanche occurs in areas where gradients exceed 70 percent typically off the fault scarps of the thick-bedded sandstone of the Tyee and Flournoy Formations. Debris torrents may originate from first order headwater streams in the upper reaches where headwalls or hollows of drainages with slope gradients between 90-100 percent may be present.

The general area lies in the Bohannon-Digger-Preacher Soil Association (map 3). These soils formed from sandstone in the udic-mesic zone of the Coast Range (USDA, 1987). The soils within the right-of-way on Federal land are predominately in the Digger and Meda series. Digger series soils are moderately deep, well-drained, brown, loamy-skeletal soils formed from colluvium. Limitations of Digger soils occur primarily on very steep slopes. Cutbank stability is

high on slopes less than 80 percent, but low over 80 percent. Digger soils tend to be very porous, have a low clay content and a high stone content. Meda series soils are deep, well-drained, brown, gravelly soils formed from alluvium and colluvium. These soils are generally found on fans and terraces. Because of the proximity of the construction to streams, to control erosion, only soils located at the site that is used for construction should be disturbed.

V. DIRECT OR INDIRECT EFFECTS

A. UNAFFECTED RESOURCES

The following resources are either not present or would not be adversely affected by the proposed action or any of the alternatives: Areas of Critical Environmental Concern, regional or local air quality, prime or unique farmlands, cultural resources, floodplains, environmental justice, native American religious concerns, hazardous or solid waste, wild and scenic rivers, or wilderness. Water quality, riparian zones, and the habitat of the threatened coho salmon are expected to benefit from the proposed actions.

B. IMPACTS COMMON TO ALL ACTION ALTERNATIVES

All proposed actions would require some short-term disturbance to the road right-of-way, riparian zone, or stream channel. All actions are in areas that have previously been disturbed by management activities. No new roads would be created as a result of the proposed actions. Adverse impacts include a transient increase in sediment from culvert removal or rehabilitation and or channel rerouting and potential disturbance of fishes, invertebrates, and aquatic communities in the stream channel during culvert rehabilitation and channel structuring.

The impacts to vegetative characteristics associated with passage mitigation stream structures above and below culvert replacements are expected to be relatively low except in access routes used to move materials from roadways to the stream channel. Roading and tree yarding would result in soil disturbance and compaction, and would increase the likelihood of non-native and potentially noxious species entering and/or increasing in the project area. Surface soil disturbance may also result in disruption of soil dwelling fungal hyphae that play an important role in nutrient cycling and decomposition. Suggested botanical mitigation measures under the *Mitigating Measures* section following should help alleviate the potential for the increase or spread of non-native species, and minimize mycorrhizal disturbance.

As a result of the possible placement of structures in the stream above and below culvert projects, water surface levels would be raised at all flow levels. During peak flows more water would flow into riparian areas. Project designs limit the potential for erosion. The flooding of riparian areas provides a positive benefit for deposition of silts in riparian areas and increased groundwater infiltration. Previous stream projects that have raised water levels have resulted in an increase in wetlands in the adjoining riparian area. The projects are expected to contribute to an overall improvement in water quality and reduced flooding downstream.

C. PROPOSED ACTION

ISSUE 1: Effects on Attainment of ACS Objectives

To attain Aquatic Conservation Strategy (ACS) objectives within the Riparian Reserves, specific management actions that are consistent with the Lake Creek Watershed Analysis have been included in the Proposed Action. The following is a site specific analysis of the effects of the Proposed Action on the attainment of the ACS objectives:

Objective 1: The Proposed Action would maintain and contribute to the restoration of the distribution, diversity, and complexity of watershed and landscape features. The removal of barrier culverts 1 and 2 will open upstream habitat to all life cycles of salmonids and other indigenous aquatic species. These barrier pipes have for decades disconnected populations and or communities of aquatic species that likely adapted to and utilized the habitat above the barriers. Watershed features and related restoration opportunities above and below culvert replacement project areas are not addressed in this analysis.

Objective 2: The Proposed Action would help restore the spatial and temporal connectivity within and between watersheds because of the proposed barrier culvert removal/ replacements. Barrier removals will allow all aquatic species to move in an unobstructed fashion to and from species specific habitats in the watershed that have not been available for decades.

Objective 3: The Proposed Action would maintain and contribute to the restoration of the physical integrity of the aquatic systems. In the future, the possible addition of log and boulder structures above and below culvert replacements would help the aggregation process. The addition of these structures would also slow high stream velocities that can lead to unwanted scour. Disturbed stream banks in the project area would be stabilized (see VI. Mitigating Measures section).

Objective 4: The Proposed Action would maintain the water quality necessary to support healthy riparian, aquatic, and wetland ecosystems. The transient increase in sediment from culvert removal/rehabilitation would have short term negative effects on water quality that would not be expected to have long term negative affects on survival, growth, reproduction, and migrations of aquatic species. The removal of migration barriers would be of great benefit to aquatic species movement. Opening access to upstream habitats would provide greater opportunity for fish and aquatic species to fulfill life cycles.

Objective 5: The Proposed Action would maintain the sediment regime under which this aquatic ecosystem evolved. Elements of the sediment regime which often accumulate upstream of undersized culverts would likely transport in a more natural fashion. In addition, culvert replacement design would include natural stream simulation where substrates accumulate within the pipe and allow for easier aquatic species passage. The movement of restoration logs and boulders (during the summer months) from roadside staging areas to the stream channel for above and below culvert mitigation could result in the short term production of a minor amount of sediment in the event of a summer rain storm, but would

only have negligible, short term effects on the riparian. In addition, equipment operation would result in localized soil disturbance. A long term benefit would be the placement of new culverts at lower stream gradients making aquatic migration easier for smaller aquatic species.

Objective 6: The Proposed Action would not have a negative effect on in-stream flows influencing the riparian, aquatic and wetland habitats in the proposed project area as related to retaining patterns of sediment and nutrient routing. Sediment, nutrient and wood routing would be expected to improve with the increase in culvert size. The extent of the effect on flow related to evapotranspiration and interception and to removal of some hardwoods from the riparian is not certain but expected to be negligible.

Objective 7: The Proposed Action would have no effect on the timing, variability, and duration of floodplain inundation and water table elevation in wetlands or meadows since they do not exist in project locations.

Objective 8: The Proposed Action would maintain the species composition of plant communities in the associated riparian zone. Excavation of barrier culverts, rerouting of channels (if necessary) for culvert gradient control and new culvert installation will be completed with minimal loss of thermal regulating vegetation. In order to fulfill ACS objective 2 (spatial and temporal connectivity), short term impacts to the botanical community in the immediate vicinity of the road prism and culvert area would occur. It may be necessary to remove some larger trees to facilitate the placement of larger replacement culverts. Observable, vegetative recolonization of the these areas is expected to begin within weeks of the completion of culvert replacements. Exposed sites would be protected against erosion and seeded with native species (see VI. Mitigating Measures section).

Objective 9: The Proposed Action would maintain habitat to support well distributed populations of riparian dependant species. The proposed action of culvert removal and replacement would be confined to a very small area of the watershed and should have no effect on the existing riparian dependant species.

ISSUE 2: Effects on Special Status Species

There is potential for audio disturbance to spotted owls and marbled murrelets in the unsurveyed habitat mentioned in Section IV of this document. Because no habitat for any other special status species would be modified, this proposed action would not have adverse effects to those species.

No effects are anticipated to special status or survey and manage plants, lichens or bryophytes, as none of these species were found during surveys.

ISSUE 3: Effects of the proposed culvert removals in road 16-7-30 on neighboring private land owners and public access.

During winter months, of several of the past years, the Fish Creek Road (16-7-30) and spur road 16-7-29 (Bear Ridge) have been used as alternative vehicular traffic routes during periods when

rock and other falling debris have closed Oregon State Highway 36 between Triangle Lake and the Fish Creek road junction. Typically, traffic over these routes is light and consists of logging related and recreational activity for the remainder of the year.

The Proposed Action of replacing culverts 1-3 in T16S R7W Sections 23 and 27 would restrict vehicle traffic from possibly July 1 through September 15 of the given year of culvert replacement into Sections 22 and 27 via Fish Creek Road (~1.5 miles). Alternate routes to adjacent private land holdings are many and should provide means of access during the culvert replacement process. Should the need for additional culvert replacement time extend beyond the guidelines for timing of stream enhancement work, then there would be a possibility of this area being closed to the public for additional, weekly time intervals (see Mitigating Measure 1).

D. ALTERNATIVE 2 - Replacement of aquatic species barrier pipes only

ISSUE 1: Effects on Attainment of ACS Objectives

Alternative 2 includes management within the Riparian Reserves similar to the Proposed Action and would have the same effects on the ACS Objectives.

ISSUE 2: Effects on Special Status Species

Effects of this alternative as related to wildlife species would be the same as the proposed action.

Alternative 2 is the same as Alternative 1 for special status or survey and manage plants. No effects are anticipated.

ISSUE 3: Effects of the proposed culvert removals in road 16-7-30 on neighboring private land owners and public access.

Similar to the Proposed Action, the replacement of culverts 1 and 2 in T16S R7W Sections 23 and 27 would restrict vehicular traffic from possibly July 1 through September 15 of the given year of culvert replacement into Sections 22 and 27 via Fish Creek Road (~1.5 miles). By not replacing the additional culvert (number 3) the time of access restriction would likely be several weeks less.

E. ALTERNATIVE 3 - No Action

Under a No Action Alternative, no actions would be taken to replace barrier or aged culverts. Culvert work already occurs as part of the district road maintenance program. However, the emphasis would be on road stability and not on assisting with recovery of the aquatic system and its associated fauna. Under the No Action alternative, there would be no effect to Special Status Species, adjacent private lands or logging operations and there would be no restriction of vehicular traffic flow through the project area. Barrier culverts would continue to block migration routes of Sensitive Species, such as coho salmon and other aquatic species, under this alternative.

VI. MITIGATING MEASURES

The following mitigating measures have been identified:

1. Guidelines established for timing of stream enhancement work by the Oregon Department of Fish and Wildlife (ODFW) would be adopted. Changes to the guidelines would be in concurrence with BLM and ODFW.

2. To prevent the further spread of noxious weeds, cleaning of heavy equipment would be required prior to entering project areas.

3. Roading of heavy equipment would be kept to a minimum in project areas to prevent the spread of noxious weeds.

4. At project sites retain as much coarse woody material (including stumps) as possible.

5. If funding is available, Scot's broom and/or non-native blackberry (Himalayan and evergreen) plants would be pulled within project areas prior to equipment move-in and in the year after project implementation to prevent further spread.

6. To help maintain the existing native plant communities, roadsides or temporary access routes would be seeded with native species mixtures. If native seed is not available and seeding is necessary for erosion control, an annual (70%) and perennial (30%) rye mixture would be used with strict guidelines on seed purity.

7. When working in or next to the stream channel spill kits and an approved spill containment plan would be included in operations.

8. To reduce the potential for introduction of silt or petroleum products, when stream depth and channel conditions allow, use of a by-pass or retaining basin may be adopted.

9. Terms and conditions for riparian and instream work as described in the Programmatic Biological Assessment/Biological Opinion for the Oregon Coast Range Province as related to the Coastal Coho Evolutionarily Significant Unit (ESU) would be followed.

10. After the installation of culverts exposed sites may be hydro-mulched. Straw bales (or an acceptable substitute) would be used for erosion controls as directed by the contracting officer.

11. Petroleum products, chemicals, and other deleterious materials would be prevented from entering the stream. No fresh concrete would come in contact with the active flowing stream (if used in culvert installation).

12. As stated in the special conditions section of Fill Permit No. FP-23692 :

> Turbidity shall not exceed 10% above natural stream turbidities as a result of the project. The turbidity standard may be exceeded for a limited duration, (per OAR 340-41) provided all

practicable erosion control measures have been implemented as applicable, including, but not limited to:

- use of filter bags, sediment fences, silt curtains, leave strips or berms, or other measures sufficient to prevent offsite movement of soil;

- use of an impervious material to cover stockpiles when unattended or during a rain event;

- graveled construction accesses to prevent movement of material offsite via construction vehicles;

- sediment traps or catch basins to settle out solids prior to water entering ditches or waterways; and

-erosion control measures shall be maintained as necessary to ensure their continued effectiveness, until soils become stabilized.

13. Activities associated with sites two and three are within 0.25 miles of suitable murrelet habitat, and would not begin until 2 hours after sunrise and shall end 2 hours before sunset. This restriction would be in effect from April 1 through September 15.

VII. ESSENTIAL FISH HABITAT

Programmatic Consultation has been completed for Essential Fish Habitat in the Lake Creek drainage for Oregon Coast Coho Salmon and Oregon Coast Chinook Salmon dated July 2, 2001 (OSB2001-0070-PC).

Coho salmon use Fish Creek for migration, spawning and rearing. The proposed project is in the ESU for the federally-listed threatened Coastal coho salmon. Coho salmon use here and in the Lake Creek basin has declined recently due to a reduction in available spawning and rearing habitat and habitat disconnection caused by undersized barrier culverts. Chinook salmon use the lower and middle stream reaches of Fish Creek for migration and spawning. Available spawning habitat here has been increased for chinook due to recent stream restoration that included placement of large woody debris that retain spawning substrates.

VIII. MONITORING AND EVALUATION

Prior to implementation of instream project work, a photographic and descriptive record is made of existing habitats in project areas. Pre project inventories are generally conducted in proposed enhancement reaches by BLM, but have been completed in 1999 by the ODFW (a cooperator/ contractor). When possible, project locations are identified using Global Positioning System (GPS). Collected GPS data is then added to the District GIS data system. Pre-work sampling to estimate current juvenile salmonid and other fish species populations is conducted in selected habitats using seining/electrofishing and/or snorkeling. For project areas used by anadromous salmonids, spawning counts conducted for up to16 years provide a baseline for pre and post-project comparison. Post project photographs are taken to show completed work and adjacent habitat prior to exposure to stream flow extremes. Successive photos are taken to document changes in project

stability and effects on adjoining riparian and stream habitats. Spawning ground counts are continued in established index areas. Juvenile sampling, using snorkeling and electrofishing, is used to document use of structures. Information is also generally collected on non salmonid fish species both before and after project work. Reference macroinvertebrate samples may be collected at some project sites. Tree survival and growth are documented in riparian restoration areas during at least the first five years following planting. Disturbance areas are monitored for invasive non-native plant species.

IX. LIST OF CONTRIBUTORS

The following Bureau of Land Management specialists have examined the Proposed Action and have provided either written or verbal input in this assessment:

Neil Armantrout	BLM Fisheries Biologist/Senior Staff Specialist
Graham Armstrong	BLM Hydrologist
Karin Baitis	BLM Soil Scientist
Dan Crannell	BLM Wildlife Biologist
Gary Hoppe	BLM Planner/Environmental Coordinator
Doug Goldenberg	BLM Botanist
Eric Meyers	BLM Civil Engineering Technician
Leo M. Poole	BLM Fisheries Biologist, EA Preparer
Gerald Russell	BLM Civil Engineer/Senior Staff Specialist
Saundra Miles	BLM Recreation Planner
Mike Southard	BLM Archeology/Senior Staff Specialist

X. CONSULTATION AND COORDINATION

1. Private Lands and Roads

Personal communications were conducted with adjoining private land owners with regard to proposed restoration activities and issues that could possibly affect private resources.

2. Sensitive/threatened Species

BLM has completed an inventory of resident and anadromous fish species on Federal lands within the project area that are classified as threatened or candidates for listing under the Endangered Species Act.

Wildlife

The Programmatic Biological Assessment addressing disturbance and this proposal related to Federally listed or proposed terrestrial animals was submitted to U.S. Fish and Wildlife Service (USFWS). Because of the potential for audio disturbance to marbled murrelets and spotted owls during the critical nesting period, this proposed action for sites 2 and 3 “May Affect, and is Likely to Adversely Affect” these species. If the Proposed Action is conducted after August 5, 2004 the proposal would “Not Likely Adversely Affect (NLAA)” both the spotted owl and the marbled murrelet, and if the project occurs between July 7 and August 5,

2004 the call would be NLAA for the owl, but still Likely to Adversely Affect for the murrelet. The USFWS response, in the form of a Biological Opinion, is expected in December of 2003. Activities associated with projects within 0.25 miles of suitable murrelet habitat would not begin until 2 hours after sunrise and shall end 2 hours before sunset.

Coho

The proposed actions are consistent with the description and terms and conditions under the Programmatic Biological *Assessment and Biological Opinion for Ongoing USDA Forest Service and USDI Bureau of Land Management Activities Affecting Oregon Coast Range Province, Oregon* for the Oregon Coast coho salmon and designated "Critical Habitat" issued by the National Marine Fisheries Service (NMFS) - June 4, 1999 and extended on December 21, 2001 (OSB2001-0217-PC-RI) and October 18, 2002 (OHB 2002/00879).

3. Cultural Resources: No cultural resources have been identified to date in the actual project locations. All required cultural resource reviews have been completed. The Fish Creek project is within the Oregon Coast Range physiographic province and the terms of Protocol D as defined in the National Programmatic Agreement in Oregon (USDI, 1998) apply.

4. Wild and Scenic Rivers: In the 1995 Eugene District Resource Management Plan (RMP) portions of the Siuslaw River were found as eligible for designation under the Wild and Scenic Rivers Act. The primary outstanding resource values were anadromous fisheries, wildlife and recreation. The proposed action project areas in Fish Creek are not located in designated Wild and Scenic Rivers areas within the Siuslaw River Basin.

5. Navigability: Fish Creek and its tributaries are not recognized by BLM as navigable.

6. State and County Land Use: Aquatic and riparian habitat restoration was found in the District RMP to be compatible with existing State and County land use laws. The proposed actions are compatible with the Coastal Zone Management plans and goals.

7. Permits: All required permits would be obtained prior to the beginning of project work. The majority of restoration activities would require only ODFW and State Lands waiver permits. Some of the structures may exceed 50 cubic yards of fill and would require permitting through the State Lands-Corps of Engineers excavation and fill permitting process. The proposed project work is covered by State Lands permit, FP-23692, issued on June 19, 2001 and renewed on June 18, 2002 and May 2003.

REFERENCE

Armantrout, Neil B. 2000. Lake Creek Aquatic Habitat Management Plan and Environmental Assessment. USDI Bureau of Land Management, Eugene District, Eugene, OR 79 pp.

Oregon Department of Fish and Wildlife. 1999. Personal communication.

Oregon Department of State Lands and US Army Corps of Engineers. June 19, 2001. Joint fill/removal authorization. Permit number FP-23692 Renewal. 4pp.

USDA Soil Conservation Service. 1987. Soil Survey of Lane County Area, Oregon.

USDA, Forest Service and USDI, Bureau of Land Management. February 1994. Final supplemental environmental impact statement on management of habitat for late successional and old-growth forest related species within the range of the northern spotted owl (Northwest Forest Plan).

USDA, Forest Service and USDI, Bureau of Land Management. April 1994. Record of Decision for Amendments to Forest Service and Bureau of Land management Planning Documents within the range of the Northern Spotted Owl.

USDI, Bureau of Land Management. June 1995. Lake Creek Watershed Analysis. Eugene District Office, Eugene, Oregon.

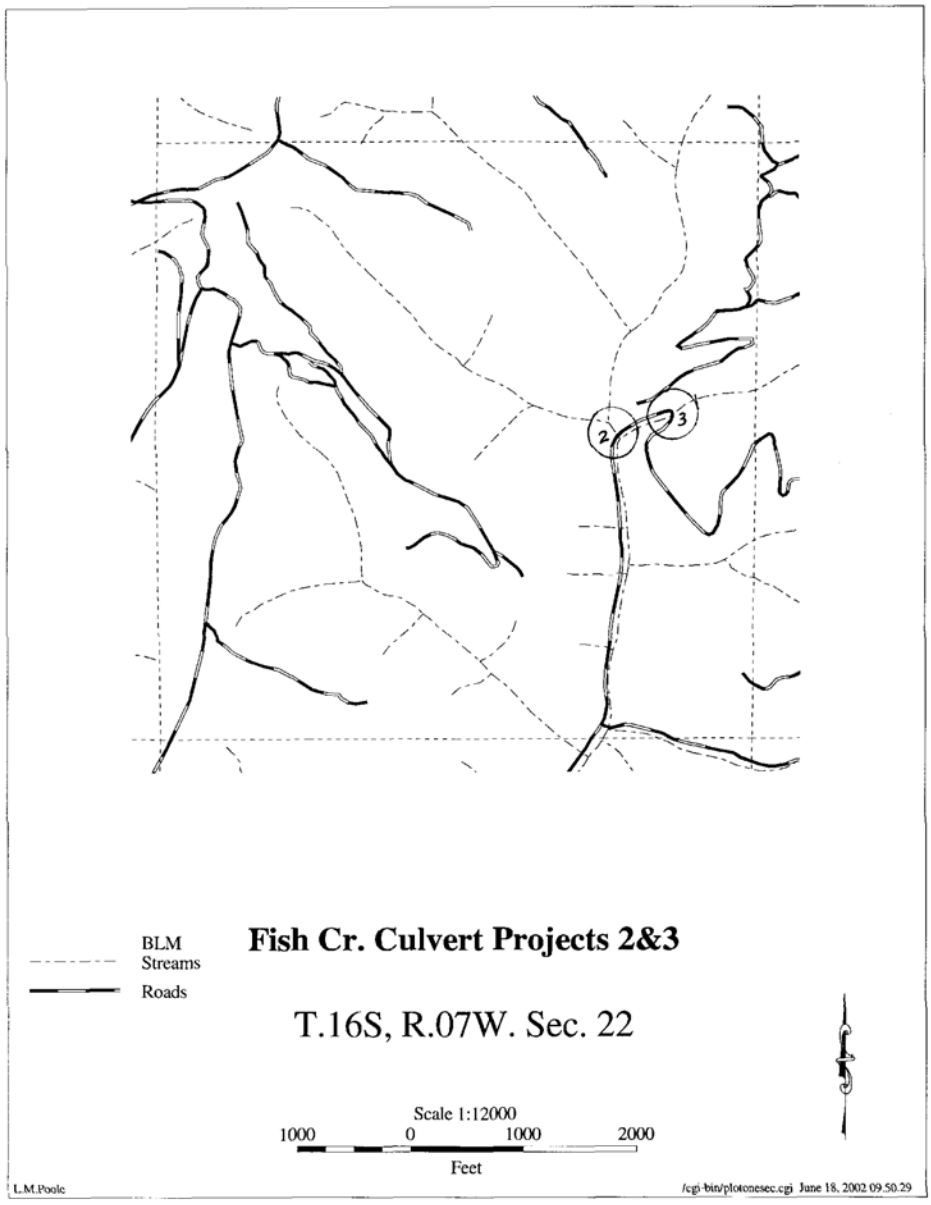
USDI, Bureau of Land Management. August 1998. Protocol for managing cultural resources on lands administered by the BLM in Oregon. Oregon State Office, Portland, Oregon. 20pp.

Walker GW, Macleod N S. 1991. Geologic Map of Oregon. U.S.G.S.

APPENDIX

Effluent View of Culvert Replacement 1

Effluent View of Culvert Replacement 2


2
3
BLM
Streams
Roads
Fish Cr. Culvert Projects 2&3
T.16S, R.07W. Sec. 22
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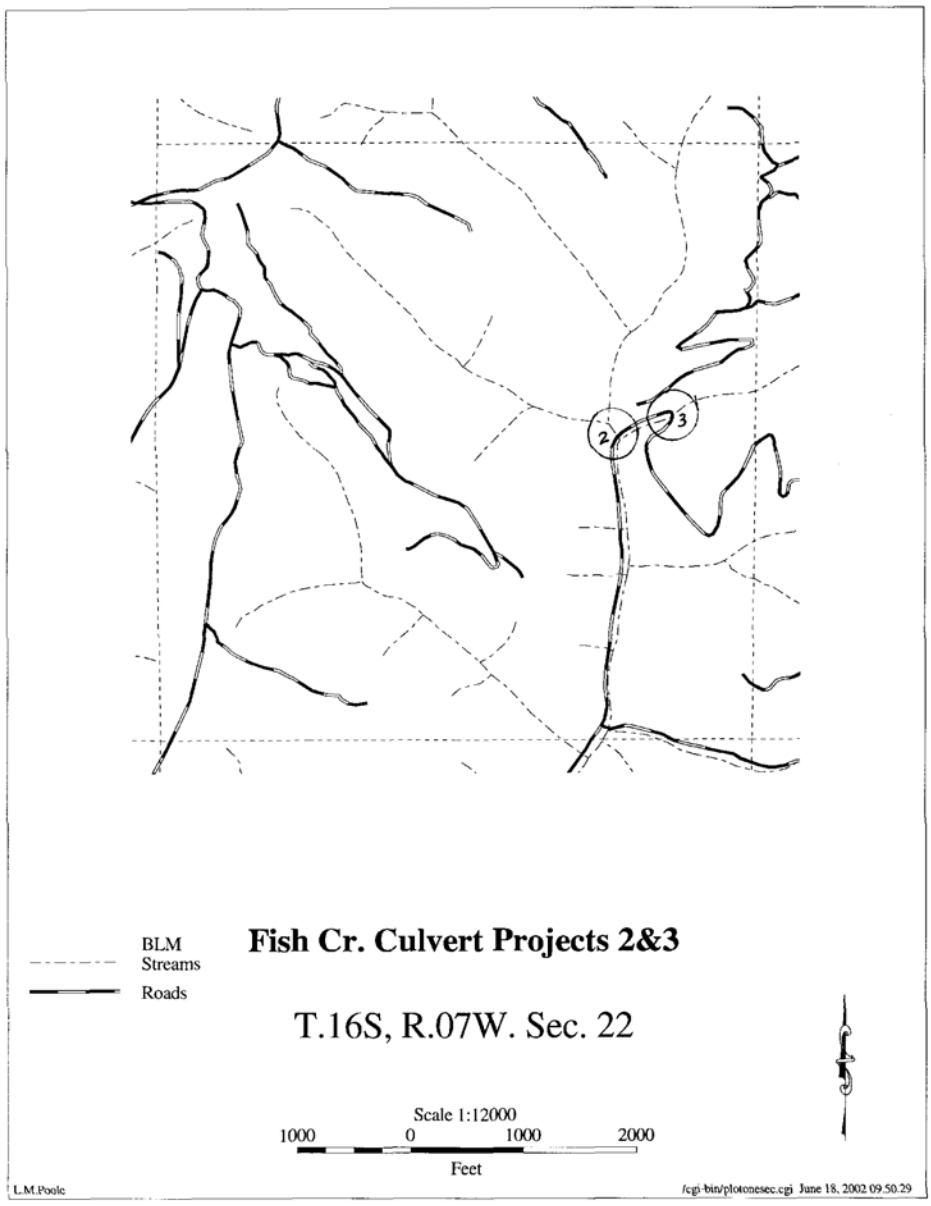
0
1000
2000
Feet
L.M.Poole
/cgi-bin/plotonesec.cgi June 18, 2002 09.50.29

Map 1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Feet
L.M.Poole
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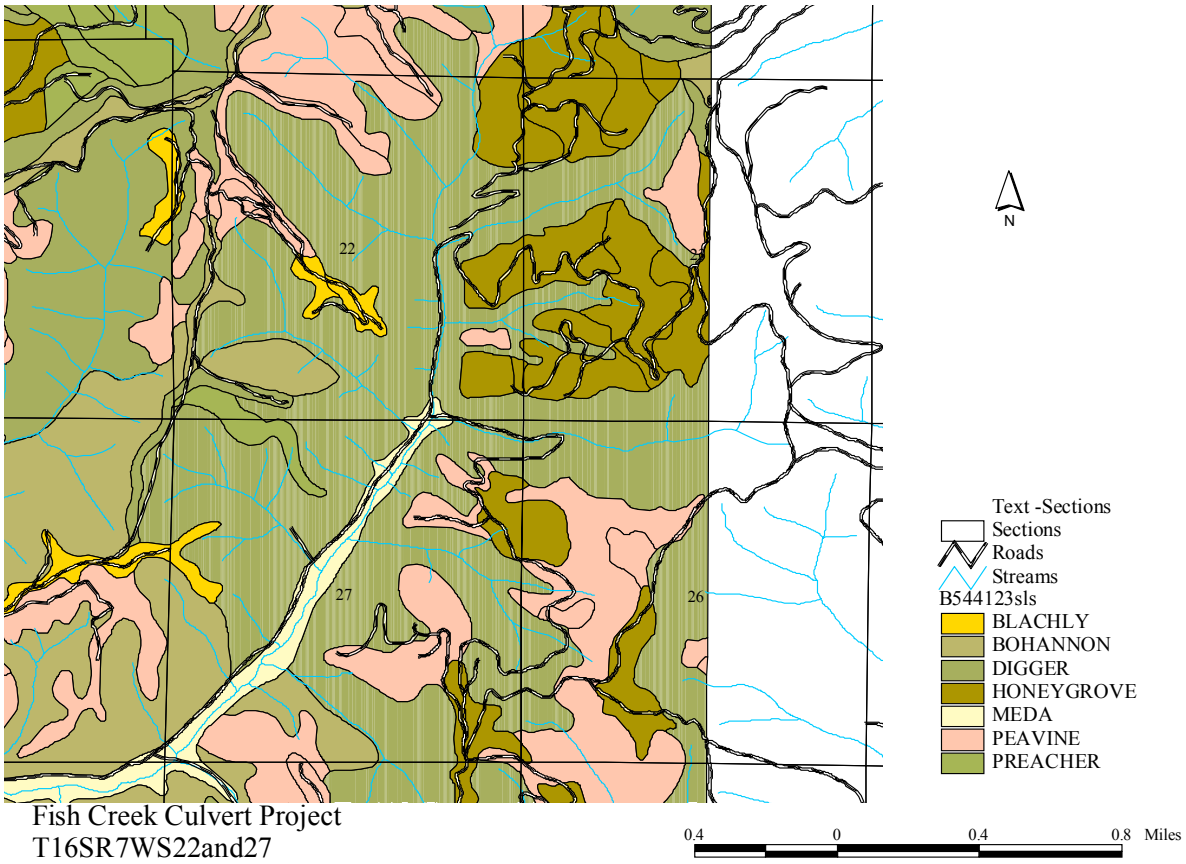
Map 2



Fish Creek Culvert Project
T16SR7WS22and27

Map 2

Map 3

UNITED STATES DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT
EUGENE DISTRICT OFFICE

Preliminary Finding of No Significant Impact
for
FISH CREEK AQUATIC HABITAT RESTORATION PLAN
ENVIRONMENTAL ASSESSMENT No. OR090-EA-03-13

Determination:

On the basis of the information contained in the Environmental Assessment, and all other information available to me, it is my determination that implementation of the proposed action or alternatives will not have significant environmental impacts beyond those already addressed in the Record of Decision (ROD) for Amendments to Forest Service and Bureau of Land Management Planning Documents Within the Range of the Northern Spotted Owl (April 1994), and the Eugene District Record of Decision and Resource Management Plan (June 1995) as amended by the Record of Decision for Amendments to the Survey and Manage, Protection Buffer, and other Mitigation Measures Standards and Guidelines, USDA Forest Service and USDI Bureau of Land Management January 2001, with which this EA is in conformance, and does not, in and of itself, constitute a major federal action having a significant effect on the human environment. Therefore, an environmental impact statement or a supplement to the existing environmental impact statement is not necessary and will not be prepared.

Steven Calish
Field Manager, Siuslaw Resource Area

Date

Environmental Assessment No. OR090-EA-03-13

Fish Creek Aquatic Habitat Restoration Plan
Culvert Replacements

May 2003

United States
Department of the Interior
Bureau of Land Management
Eugene District
Siuslaw Resource Area